UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/907,230	07/17/2001	Trung V. Le	10273US01	6313

7590　　　07/27/2005

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EXAMINER
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ART UNIT	PAPER NUMBER
2137	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	**Applicant(s)**
Office Action Summary	09/907,230	LE ET AL.
	Examiner	**Art Unit**	
	Kevin Schubert	2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>07 July 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claims 1-37 have been considered.

Claim Rejections - 35 USC § 102

5   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for

the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or
in public use or on sale in this country, more than one year prior to the date of application for
10   patent in the United States.

Claims 1-6,8-10,12,14-25,27-32, and 34-37 are rejected under 35 U.S.C. 102(b) as being

anticipated by Sollish, PCT International Publication No. WO 98/08180.

15

As per claims 1,15,23, and 29, the applicant describes a computer-readable medium comprising

the following limitations which are met by Sollish:

a) an access key having uncorrected data and associated error correction information having one

or more errors (page 24, line 23 to page 25, line 2);

20   b) digital content (page 16, lines 2-9)

c) an executable software application to control access to digital content based on the

uncorrected data (page 16, lines 2-9);

Sollish discloses a copy protection method in which an access key is written onto a computer-

readable medium, such as a CD or DVD, in the form of uncorrected data and associated error correction

25   information having errors. The uncorrected data is in the form of ambiguous symbols. Errors are

intentionally introduced into the error correction information associated with the ambiguous symbols so

that error-correcting capabilities of the player do not change the ambiguous symbols. The ambiguous

symbols are used to authenticate the disc. Since the ambiguous symbols are uncopyable by ordinary

recording equipment, an unauthorized disc is recognized if it does not have the ambiguous symbols and execution of the disc is prevented. Therefore, copy protection ensues.

Regarding claims 1 and 15, receiving an input from the user can be a request to execute or install the data stored on the CD or DVD (page 37, lines 19-30). Access to the medium (ie execution of the data

5   on the medium) is controlled by the user's request to execute the data and whether or not the ambiguous symbols are present.

As per claims 2 and 16, the applicant describes the method of claims 1 and 15, which are met by Sollish (see above), with the following limitation which is met by Sollish:

10   a) invoking a device driver of a storage device to read the uncorrected data from the medium without modification from application of the error correction information (page 16, lines 2-9);

b) comparing the uncorrected data and the input (page 16, lines 2-9);

The user's desire to execute a program is compared with the decision as to whether the disc is authorized or not based on the uncorrected data. A decision is then made as to whether the program

15   should be executed.

As per claims 3 and 17, the applicant describes the method of claims 1 and 15, which are met by Sollish (see above), with the following limitation which is met by Sollish:

Wherein controlling access to the medium includes installing a software application from the

20   medium onto a computing system (page 37, line 19 to page 38, line 5).

As per claims 4,18,24, and 36, the applicant describes the method of claims 1,15,23, and 29, which are met by Sollish (see above), with the following limitation which is met by Sollish:

Wherein controlling access to the medium includes executing a software application from the

25   medium (page 16, lines 6-7).

As per claims 5,27, and 32, the applicant limits the method of claims 1,23, and 29, which are met by Sollish (see above), with the following limitation which is met by Sollish:

Wherein controlling access to the medium includes:

a) copying content from the medium to a second medium (page 23, lines 10-19);

5   b) applying the error correction information to the uncorrected data to produce a second access key (page 23, lines 10-19);

c) copying the second access key to the second medium (page 23, lines 10-19).

The second access key does not contain the ambiguous symbols because error correction information applied to the ambiguous symbols prevents the ambiguous symbols from being copied onto

10   the second medium. The error correction information applied to the uncorrected data produces a second access key when the medium is copied, but the second access key does not contain the ambiguous symbols. When the second medium attempts to execute, the ambiguous symbols will not be present in the second access key and the copied medium will therefore not execute.

15   As per claims 6,19,25, and 35, the applicant describes the method of claims 1,15,23, and 29, which are met by Sollish (see above) with the following limitation which is also met by Sollish:

Wherein controlling access to the medium includes producing an audio output based on content stored on the medium (page 1, line 5).

20   As per claims 8 and 20, the applicant describes the method of claims 1 and 15, which are met by Sollish (see above), with the following limitation which is also met by Sollish:

Wherein the error correction information includes error correction information selected from an error correction code, a cyclic redundancy code, and a Cross Interleaved Reed-Solomon Code (page 9, lines 13-15).

25

As per claims 9 and 21, the applicant describes the method of claims 1 and 15, which are met by Sollish (see above), with the following limitation which is also met by Sollish:

Wherein controlling access to the medium comprises decrypting the digital content contained

within the medium based on the uncorrected data and the input (page 37, lines 14-16).

As per claim 10, the applicant describes the method of claim 9, which is met by Sollish (see

above), with the following additional limitation which is also met by Sollish:

Wherein the digital content comprises at least one of a software application, audio data, or video

data (page 37, line 20).

As per claim 12, the applicant describes the method of claim 1, which is met by Sollish (see

above), with the following limitation which is also met by Sollish:

Further including selecting the access key from a plurality of access keys, where each of the

access keys includes data and associated error correction information, having one or more errors (page

23, lines 20-27).

Sollish discloses that a plurality of access keys, which contain data and associated error

correction information, can be written on the medium. The reading medium need only select one to prove

that the medium is authentic.

As per claims 14,22,28, and 37, the applicant describes the method of claims 1,15,23, and 29,

which are met by Sollish (see above), with the following limitation which is met by Sollish:

Wherein the uncorrected data includes accurate error correction information for the uncorrected

data (page 17, lines 10-11).

The uncorrected data is associated with error correction information which contains one or more

errors at specific locations. The error correction information is a mix of accurate error correction

information and one or more errors.

As per claims 30,31, and 34, the applicant describes the method of claims 29 and 33, which are

met by Sollish (see above), with the following limitation which is met by Sollish:

Wherein associating content and the access key comprises communicating the digital content

and the access key through a transmission medium (page 23, lines 14-15);

The transmission medium is specialized optical media and the storage medium is an optical

device, such as a CD or DVD (page 1, lines 5-6).

5

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as
> set forth in section 102 of this title, if the differences between the subject matter sought to be
> patented and the prior art are such that the subject matter as a whole would have been obvious
> at the time the invention was made to a person having ordinary skill in the art to which said
> subject matter pertains. Patentability shall not be negatived by the manner in which the invention
> was made.

10

15

Claims 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sollish in view

of Stebbings, U.S. Patent No. 6,684,199.

20   As per claim 7, the applicant describes the method of claim 1, which is met by Sollish (see

above), with the following limitations which are met by Stebbings:

a) receiving a first access key and a second access key from the medium, where the first and

second access keys each include uncorrected data (Sollish: page 23, lines 20-27);

b) comparing the uncorrected data of the first access key to the uncorrected data of the second

25   access key (Stebbings: Col 15, lines 41-48);

c) selectively using the first access key based on the comparison (Stebbings: Col 15, lines 41-

48);

Sollish discloses all the limitations of claim 1. Also Sollish discloses a copy protection method in

which a plurality of access keys are present on an optical disc. However, Sollish does not disclose a

30   comparison of first and second access keys.

Stebbings discloses a copy protection method similar to Sollish's in which a plurality of access

keys are present on an optical disc. Stebbings also discloses that the access keys can correspond to

particular tracks of an audio CD and that authentication is given on a track by track basis. Therefore, if a

user wishes to play track 5, the system compares the access keys of each track and selectively uses the

5   access key which decrypts track 5.

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to

combine the ideas of Stebbings with those of Sollish because doing so allows the selective use of a

particular access key for access to information associated with the particular access key.

10   As per claim 11, the applicant describes the method of claim 1, which is met by Sollish (see

above), with the following limitation which is met by Stebbings:

Wherein receiving the access key includes decrypting the access key (Stebbings: Col 14, lines

66-67).

15   Claims 13 and 33 rejected under 35 U.S.C. 103(a) as being unpatentable over Sollish in view of

Bell, U.S. Patent No. 6,832,319.

As per claim 13, the applicant describes the method of claim 12, which is met by Sollish (see

above), with the following limitations which are met by Bell:

20   Wherein selecting the access key includes:

a) assigning a random number to the medium, wherein the random number is uniquely

associated with the medium (Col 2, lines 44-47);

b) selecting the access key from the plurality of access keys based on the random number (Col 4,

lines 40-54);

25   c) generating a hash value from the random number and the selected access key (Col 4, lines 40-

54);

d) decrypting content of the medium using the hash value (Col 4, lines 40-54);

Sollish discloses all the limitations of claim 12. However, Sollish does not disclose the particular method of decrypting content as described above.

Bell discloses a copy protection system of an optical disc in which each disc is assigned a unique media ID, or random number. The disc also has a plurality of media keys. Based on the media ID or

5   random number, a computer readable code selects a media key from the disc and creates the content decryption key by combining, or hashing, the media ID with the media key to form a content key. The content key is used for decrypting the content on the medium.

It would have been obvious to one of ordinary skill in the art to combine the ideas of Bell with those of Sollish because doing so yields a more secure method of retrieving a decryption key.

10

As per claim 33, the applicant describes the method of claim 29, which is met by Sollish (see above), with the following limitations which are met by Bell:

a) receiving input from a user (Col 4, lines 26-39);

b) generating an encryption key based on the input and the access key (Col 4, lines 26-39);

15   c) encrypting the digital content based on the encryption key (Col 4, lines 26-39);

d) associating the encrypted digital content with the access key (Col 4, lines 26-39);

The input from the user is a command to encrypt the data on the medium. Based on this command, an encryption key is generated based on a media key (access key) and a media ID. The digital content is encrypted on the medium and associated with the media key (access key) stored in the

20   media key block.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sollish in view of Menezes (Menezes, Alfred. Handbook of Applied Cryptography. CRC Press. 1997. page 363).

25   As per claim 26, the applicant describes the data storage device of claim 23, which is met by Sollish (see above), with the following limitation which is met by Menezes:

Wherein the error correction information includes an incorrect cyclic redundancy code (page 363);

Sollish describes all the limitations of claim 23. However Sollish includes the use of Cross

Interleaved Reed-Solomon Code, not cyclic redundancy code.

Menezes discloses that cyclic redundancy code is a well known and used error correction

technique, like Cross Interleaved Reed-Solomon Code. It would have been obvious to one of ordinary

5   skill in the art at the time the invention was filed to combine the ideas of Menezes with those of Sollish

and use CRC instead of CIRC because CRC is a commonly used technique for error correction.

Response to Arguments

Applicant's arguments filed 7/7/05 have been fully considered but they are not persuasive. The

10   applicant argues that the rejection applied to claims 1,5,15,23, 29 is deficient because it lacks the

limitation "error correction information having one or more errors". The examiner disagrees. Sollish

discloses a copy protection method in which an access key for a medium, such as a disk, is comprised of

one or more ambiguous symbols inserted on the disk. Since these ambiguous symbols are not able to be

copied, one can authenticate a valid disk by simply checking to make sure that the ambiguous symbols

15   are present (see page 15).

Sollish further discloses the need to make sure that these ambiguous symbols on the valid disk

itself are not overwritten or changed by error correction capabilities. In order to accomplish this, Sollish

discloses inserting intentional errors in the error correction portion of a codeword. As disclosed by

Sollish, "The overriding of the ECC is accomplished by causing a non-correctable pattern of erroneous

20   symbols to occur in the ECC portion of the codeword" (page 17, lines 22-24). This prevents the error

correction decoder from altering the ambiguous symbols because the decoder will focus on the

intentionally inserted errors in the error correction portion of the codeword and ignore the remainder of the

codeword, the ambiguous symbol. As disclosed by Sollish, "According to the present invention, error

correction for an ambiguous symbol may be overwritten by intentionally introducing certain errors in the

25   codeword where the ambiguous symbol is located. By so doing, the error-correcting capabilities of the

player will be used up on these deliberate errors and there will be no alteration of the ambiguous symbol"

(pages 24-25). In addition to preventing the ambiguous symbols from being overwritten, this method also

provides the benefit that other codewords (those that don't have an ambiguous symbol) can still utilize

error correction capabilities because the error correction information associated with the other codewords

is not altered.

The applicant also argues that ambiguous symbols are not themselves error correction

5   information (see Remarks, page 4). The examiner agrees but fails to see the relevance of this argument.

The examiner explicitly noted in the office action, dated 4/7/05, that the ambiguous symbols are the

uncorrected data and that the uncorrected data has error correction information associated with it.

Nowhere in the office action did the examiner suggest that the ambiguous symbols themselves constitute

error correction information.

10

Applicant's arguments with respect to claim 26 have been fully considered but they are not

persuasive. Sollish discloses the use of incorrect error correction information via an error correction code

(ECC) or cross-interleaved reed Solomon (CIRC) scheme. Sollish never discloses specifically using

CRC. The applicant discloses that his method may be utilized through ECC, CIRC, or CRC (see claim 8

15   for example). The examiner has combined the Menezes reference merely to show that CRC is a

commonly used and well-known error correction scheme much like ECC and CIRC. CRC could be used

instead of ECC and CIRC in a conceptually similar system.

Conclusion

20   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth

in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from

the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date

of this final action and the advisory action is not mailed until after the end of the THREE-MONTH

25   shortened statutory period, then the shortened statutory period will expire on the date the advisory action

is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX

MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should

be directed to Kevin Schubert whose telephone number is (571) 272-4239. The examiner can normally

5   be reached on M-F 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Emmanuel Moise can be reached on (571) 272-3868. The fax phone number for the organization where

this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application

10   Information Retrieval (PAIR) system. Status information for published applications may be obtained from

either Private PAIR or Public PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC)

at 866-217-9197 (toll-free).

15

KS   MATTHEW SMITHERS
                                                            PRIMARY EXAMINER
                                                            Art Unit 2137

20